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EXAMINER	
HARPER, V PAUL	

ART UNIT	PAPER NUMBER
2654	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/687,703	SCARANO ET AL.	
	Examiner	Art Unit	
	V. Paul Harper	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/02/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08/06/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The Examiner has considered the references listed in the Information Disclosure Statement dated 08/06/2004. A copy of the Information Disclosure Statement is attached to this office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 13 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In these claims the term CTI is undefined.

3. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this claim the term SQL is undefined.

Claim Objections

4. All relevant objects are withdrawn as being satisfied.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 4, 8, 9, 11-14, 16, 17, 19, 23, 24, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clements et al. ("Phonetically Searching Applied to On-line Distance Learning Modules," IEEE DSP Workshop, October 13-16, 2002), hereinafter referred to as Clements, in view of Glowny et al. (U.S. Patent Application Publication 2001/0040942 A1), hereinafter referred to as Glowny.

Regarding **claims 1 and 16**, Clements teaches a phonetic searching technique that includes the following steps:

- defining a phrase to use for searching (p. 2, col. 2, ¶2);
- defining a minimum confidence level for searching (p. 3, col. 1, ¶'s 1 and 2, ignore results below 90% confidence) ;
- searching said set of audio segments for said phrase (p. 2, § High-Speed Phonetic Searching; p. 1, §Introduction, *Infusion* creates an index ...);
- producing a set of results of all occurrences of the phrase within the set of audio segments and the confidence that a given occurrence is a match for the search phrase (p. 3, col. 1, ¶'s 1 and 2, most likely candidates listed first).

Clements also teaches the use of metadata as an aid to searching (p. 1, §Introduction, *Infusion* creates an index), but Clements does not specifically teach "identifying a set of said audio segments based on intrinsic data associated with said audio segments." However, the examiner contends that this concept was well known in the art, as taught by Glowny.

In the same field of endeavor, Glowny discloses a method for recording and storing telephone call information. Glowny also supports the ability to recall and playback a recorded call that was stored in pieces (¶[0044] the reassembled call represents a set of audio data connected by metadata).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Clements by specifically providing the features, as taught by Glowny, because it is well known in the art at the time of invention for the purpose of saving the searcher time in locating a call (Glowny, ¶'s [0002] and [0003]).

Regarding **claims 2 and 17**, Clements in view of Glowny teach everything claimed, as applied above (see claims 1 and 16, respectively). In addition, Clements teaches:

- said step of defining includes defining a plurality of phrases (p. 2, col. 2, ¶ 2, words or phrases),
- said step of searching includes searching said set of audio segments for said plurality of phrases (§ High-Speech Phonetic Searching),

- said step of producing includes producing a set of results of all occurrences of the plurality of phrases identified in a specified sequential order within the audio segments with said minimum confidence that a given occurrence within said audio segments is a match for a corresponding one of said plurality of search phrases (p. 2, ¶4 through p. 3, ¶2).

Regarding **claims 4 and 19**, Clements in view of Glowny teach everything claimed, as applied above (see claims 1 and 16). In addition, Clements teaches the following:

- said step of defining includes defining a plurality of phrases (p. 2, col. 2, ¶2),
- said step of searching includes searching said set of audio segments for said plurality of phrases (§ High-Speech Phonetic Searching),
- said step of producing includes producing a set of results of all occurrences of the plurality of phrases identified in a specified temporal relationship within the audio segments with said minimum confidence that a given occurrence within said audio segments is a match for a corresponding one of said plurality of search phrases (p. 2, col. 2, temporal operators, p. 3, col. 1, ¶'s 1 and 2, § Integration Issues with *Infusion*).

Regarding **claims 8 and 23**, Clements in view of Glowny teaches everything claimed, as applied above (see claims 1 and 16). In addition Clements teaches:

- said step of defining a phrase includes defining a plurality of phrases (p. 2, col. 2, ¶2, query term is specified as text containing one or more phrases),

- said step of searching includes searching said set of audio segments for said plurality of phrases (§ High-Speed Phonetic Searching),
- and said step of producing includes producing a set of results of all occurrences of the plurality of phrases identified in a specified temporal relationship within the audio segments with said minimum confidence that a given occurrence within said audio segments is a match for a corresponding one of said plurality of search phrases (p. 2, col. 2, temporal operators, p. 3, col. 1, *Confidence_Level,* § Integration Issues with *Infusion).*

Regarding **claims 9 and 24**, Clements in view of Glowny teaches everything claimed, as applied above (see claims 8 and 23). In addition, Clements teaches "said temporal relationship is with respect to said phrases" (p. 2, col. 2, representing two phrases spoken within 5 seconds of each other).

Regarding **claims 11 and 26**, Clements in view of Glowny teaches everything claimed, as applied above (see claims 1 and 16). Clements also teaches "the step of identifying said set of audio segments comprises a step of contstraining said set of audio segments to ones of said audio segments selected for processing based on said intrinsic data prior to performing said searching step" (§ High-Speed Phonetic Searching, ¶'s 1 and 2, process the input speech producing the *phonetic search track*), §Integration Issues with *Infusion*, also see rejection of claims 1 and 16).

Regarding **claim 12**, Clements in view of Glowny teaches everything claimed, as applied above (see claim 1). But Clements does not specifically teach "said intrinsic data comprises metadata." However, the examiner contends that this concept was well known in the art, as taught by Glowny.

In the same field of endeavor, Glowny discloses a method for recording and storing telephone call information. Glowny also teaches the use of additional data (i.e., intrinsic data) along with the voice recordings (¶'s [0003] and [0044], use of metadata is indicated).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Clements in view of Glowny by specifically providing additional data along with recording, as taught by Glowny, since additional information associated with a voice file can aid in searching by assembling a call (Glowny, ¶'s [0002] and [0003]).

Regarding **claims 13 and 27**, Clements in view of Glowny teaches everything claimed, as applied above (see claims 1 and 16), but Clements does not specifically teach "said intrinsic data comprises CTI data." However, the examiner contends that this concept was well known in the art, as taught by Glowny.

In the same field of endeavor, discloses a method for recording and storing telephone call information. Glowny also teaches the use of additional CTI data along with the voice recordings (¶'s [0003] and [0044]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Clements in view of Glowny by specifically providing additional data along with recording, as taught by Glowny, since additional information associated with a voice file can aid in searching by assembling a call (Glowny, ¶'s [0002] and [0003]).

Regarding **claims 14 and 28**, Clements in view of Glowny in view of Glowny teaches everything claimed, as applied above (see claims 13 and 27). But Clements does not specifically teach "said CTI data selected from the set consisting of (i) called number (DNIS) and, calling number (AN1), and (iii) Agent ID." However, the examiner contends that this concept was well known in the art, as taught by Glowny.

Glowny further discloses the use of telephone number, caller ID and agent ID number (¶'s [0003] and [0044]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Clements in view of Glowny by specifically providing additional data along with recording, as taught by Glowny, since additional information associated with a voice file can aid in searching by assembling a call (¶'s [0002] and [0003]).

6. Claims 3, 5, 6, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clements in view of Glowny and further in view of Frakes et al.

("Information Retrieval, Data Structures & Algorithms," Prentice Hall, 1992), hereinafter referred to as Frakes.

Regarding **claims 3 and 18**, Clements in view of Glowny teach everything claimed, as applied above (see claims 1 and 16). In addition, Clements teaches:

- said step of defining includes defining a plurality of phrases (p. 2, col. 2, ¶2),
- said step of searching includes searching said set of audio segments for said plurality of phrases (§ High-Speed Phonetic Searching),
- and said step of producing includes producing a set of results of all audio segments including (i) at least one occurrence of a selected required one of the plurality of phrases (p. 3, col. 1, ¶'s 1 and 2).

Clements teaches the use of Boolean operations for queries (abstract), but Clements does not specifically teach "(ii) non-occurrences of at least one selected forbidden one of said plurality of phrases to be excluded from within the audio segments, said occurrence and non-occurrence determined with respect to said minimum confidence that a given occurrence within said audio segments is a match for a corresponding one of said plurality of search phrases." However, the examiner contends that this concept was well known in the art, as taught by Frakes.

In the same field of endeavor, Frakes teaches basic techniques of information retrieval. Frakes's teachings include the use of the Boolean expression "not information" to find documents that do not contain information (p. 266), which correspond to "selected forbidden one of said plurality of phrases."

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Clements in view of Glowny by specifically providing the "not" Boolean operator, as taught by Frakes, since it was well-know in the art that such an operation is useful during information retrieval tasks (Frakes is a textbook published in 1992 with widely known techniques).

Regarding **claims 5 and 20**, Clements in view of Glowny teaches everything claimed, as applied above (see claims 1 and 16). In addition, Clements teaches the following:

- said step of defining includes defining a plurality of phrases (p. 2, col. 2, ¶2),
- said step of searching includes searching said set of audio segments for said plurality of phrases (§ High-Speed Phonetic Searching),

Clements also teaches the use of Boolean operations for queries (abstract) and the use of temporal operators (p. 2, col. 2, ¶2), but Clements does not specifically teach "said step of producing includes producing a set of results of all audio segments lacking occurrences of the plurality of phrases identified in a specified temporal relationship within the audio segments with said minimum confidence that a given occurrence within said audio segments is a match for a corresponding one of said plurality of search phrases." However, the examiner contends that this concept was well known in the art, as taught by Frakes.

In the same field of endeavor, Frakes teaches basic techniques of information retrieval. Frakes' teachings include the use of the Boolean expression "not information"

to find documents that do not contain information (p. 266), which correspond to "selected forbidden one of said plurality of phrases."

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Clements in view of Glowny by specifically providing the "not" Boolean operator, as taught by Frakes, since it was well-know in the art that such an operation is useful during information retrieval tasks (Frakes is a textbook published in 1992 with widely known techniques).

Regarding **claims 6 and 21**, Clements in view of Glowny in view of Frakes teaches everything claimed, as applied above (see claims 5 and 20). In addition, Clements teaches "said temporal relationship is with respect to said phrases" (p. 2, col. 2, ¶2, representing two phrases spoken within 5 seconds of each other).

7. Claims 7 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clements in view of Glowny and Frakes and further in view of Li et al. ("MOQL: A Multimedia Object Query Language," Third International Workshop on Multimedia Information Systems, Como, Italy, Sept. 1996), hereinafter referred to as Li.

Regarding **claims 7 and 22**, Clements in view of Glowny and Frakes teaches everything claimed, as applied above (see claims 5 and 20). In addition, Clements teaches the use of temporal operators, but Clements does not specifically teach "said

temporal relationship is with respect to said audio segment." However, the examiner contends that this concept was well known in the art, as taught by Li.

In the same field of endeavor, Li teaches the use of a multimedia object query language that includes the use of temporal functions. Li's teachings include a discussion of an anchored specification of time (i.e., a the temporal relationship is with respect to the segment) (§3.2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Clements in view of Glowny and Frakes, as taught by Li, since this type of temporal operator supports typical multimedia queries (Li, §3.2).

8. Claims 10 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clements in view in view of Glowny and further in view of Li.

Regarding **claims 10 and 25**, Clements in view of Glowny teaches everything claimed, as applied above (see claims 8 and 23). In addition, Clements teaches the use of temporal operators, but Clements does not specifically teach "said temporal relationship is with respect to said audio segment." However, the examiner contends that this concept was well known in the art, as taught by Li.

In the same field of endeavor, Li teaches the use of a multimedia object query language that includes the use of temporal functions. Li's teachings include a

discussion of an anchored specification of time (i.e., a the temporal relationship is with respect to the segment) (§3.2).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Clements in view of Glowny, as taught by Li, since this type of temporal operator supports typical multimedia queries (Li, §3.2).

9. Claims 15, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glowny in view of Clements.

Regarding **claim 15**, Glowny teaches a method for recording and storing telephone call information. Glowny's method includes the following steps:

- connecting a plurality of calls to at least one customer service representative (Fig. 1, items 130 and 160, Fig. 2, items 100, 230, ¶'s [0035] through [0037]);
- recording audio segments from each of said plurality of calls (Fig. 1, item 145, Fig. 2, item 180, ¶ [0037]);
- identifying a set of said audio segments based on intrinsic data associated with said calls (¶[0044] accessing and reassembling the segments of a call using metadata);
- In addition, Glown teaches search and retrieval of recoded information (¶'s [0003] and [0009]), but Glowny does not specifically teach the following steps:

a) defining a phrase to use for searching;

b) defining a minimum confidence level for searching;

c) searching said set of audio segment for said phrase; and

d) producing a set of results of all occurrences of the phrase within the audio segments and the confidence that a given occurrence is a match for the search phrase.

However, the examiner contends that steps a) through d) were well known in the art, as taught by Clements.

In the same field of endeavor, Clements teaches a phonetic searching technique that includes steps a) through d), see rejection of claim 1, above.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Glowny by specifically providing the steps a) through d), as taught by Clements, since such an approach is an efficient and high-speed technique for locating audio information (Clements, p. 1, Introduction ¶1, and p. 2, High-Speed Phonetic Searching, ¶1).

Regarding **claim 29**, Glowny discloses a contact center that includes the following:

- a switch configured to connect each of a plurality of calls to a customer service representative workstation (Fig. 2, items 100 and 230, ¶ 0035);
- a memory connected to said switch and configured to record audio segments from each of said plurality of calls (Fig. 1, item 145, Fig. 2, item 180).
- a supervisory terminal configured to ... (ii) identify a set of said audio segments from ones of said plurality of calls selected by said supervisory terminal based on

intrinsic data associated with resprective one of said calls (¶[0044] from a workstation accessing and reassembling the segments of a call using metadata);

Glowny also teaches the use of a workstation (supervisory terminal) that can browse (search) the recorded information (Fig. 1, item 160, ¶ 0047), but Glowny does not specifically teach the following features:

a) a supervisory terminal configured to (i) define a phrase to use for searching and a minimum confidence level for searching and ...;

b) a search engine connected to said supervisory terminal and to said memory for searching said set of audio segment for said phrase; and

c) a display connected to said search engine and configured to produce a set of results of all occurrences of the phrase within the audio segments and the confidence that a given occurrence is a match for the search phrase.

However, the examiner contends that steps a) through c) were well known in the art, as taught by Clements.

In the same field of endeavor, Clements teaches a phonetic searching technique that includes the following: a) the ability to define a search phrase and a confidence level (p. 2, col. 2, ¶2; p. 3, col. 1, ¶'s 1 and 2); b) a search engine with necessary memory to perform a search (§ High-Speed Phonetic Searching); and c) a necessary display for displaying results (p. 3, ¶'s 1 and 2, enumerated results).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Glowny by specifically providing the steps a) through c), as taught by Clements, since such an approach is an efficient and high-

speed technique for locating audio information (Clements, p. 1, Introduction ¶1, and p. 2, High-Speed Phonetic Searching, ¶1).

Regarding **claim 30**, Glowny discloses a method for recording and storing telephone call information includes the following:

- storing audio segments in a speech repository (Fig. 1, items 145 and 140, ¶'s [0037] and [0305]);
- storing information regarding each of the audio segments in a database (Fig. 1, item 155, ¶'s [0037] and [0305], metadata is stored with the audio recordings).

In addition, Glowny teaches the search and retrieval of the information stored in a database (¶[0032]) using techniques that are compatible with SQL (¶[0225]), which corresponds to "establishing a search criteria including speech and SQL criteria for locating spoken words or phrases...", but Glowny does not specifically teach the following:

a) ... for locating spoken words or phrases in said audio segment using speech recognition technology;

b) searching said set of audio segments and said database in accordance with said search criteria;

c) providing a report based on said search.

However, the examiner contends that steps a) through c) were well known in the art, as taught by Clements.

In the same field of endeavor, Clements teaches a phonetic searching technique that includes the following: a) the ability to search for spoken phrases using speech recognition techniques (p. 2, col. 2, ¶'s 1 and 2); b) a search engine (§High-Speed Phonetic Searching, ¶ 2; Fig. 1, PAT file is a database of preprocessed audio; §Introduction, *Infusion* supports use of metadata); and c) a necessary report for displaying results (p. 3, ¶'s 1 and 2, enumerated results).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Glowny by specifically providing the steps a) through c), as taught by Clements, since such an approach is an efficient and high-speed technique for locating audio information (see p. 1, Introduction ¶1, and p. 2, High-Speed Phonetic Searching, ¶1).

Response to Arguments

10. Applicant's arguments filed 02/02/2005 have been fully considered but they are not persuasive.

11. Applicant asserts on page 5:

> Thus, while Glowny uses metadata including CTI data to locate a targeted telephone call, it fails to describe or suggest using such data to select some subset of audio segments that are then subject to being searched to determine if one or more contain certain specified content. In particular, Glowny alone or in combination with Clements fails to describe or suggest the subject matter of the independent claims as presently amended including: ... [repetition of claim limitations for claims 1, 15, 16, 29 and 30]

The Examiner directs the Applicant to the above corresponding rejections of these claims. In summary, Glowny can reassemble a call stored in segments (a subset of the audio data stored) using metadata (¶[0044]), and Clements performs searching on *phonetic search tracks* (p. 2, §High-Speech Phonetic Searching) and is compatible with metadata (p. 1, §Introduction, *Infusion* creates an index that links text descriptors...). The combination of Clements and Glowny teach the selection of a subset of audio segments for subsequent searching.

12. Applicant further asserts beginning on page 16:

> The rejection of the claims is further traversed and believed to be improper for failure of the applied references to suggest or otherwise provide motivation for making the asserted combination. While the reasoning set forth in the Office Action asserts that additional information associated with a voice file can aid searching, merely realizing that a combination provides certain advantages using Applicants' claims as a template amounts to no more than impermissible hindsight. ...

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Furthermore, in the motivation given for the rejections of amended claims 1 and 16, Glowny indicates that the ability to combine the audio data is an aid to the searcher

(Glowny, ¶'s [0002] and [0003]) and furthermore Clements supports the use of metadata during search (Clements, §Introduction).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Paul Harper whose telephone number is (571) 272-7605. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

03/20/2005

V. Paul Harper
Patent Examiner
Art Unit 2654

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER